



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/801,428	03/07/2001	Michael D. Perry	69975	7087

22242 7590 07/03/2003

FITCH EVEN TABIN AND FLANNERY  
120 SOUTH LA SALLE STREET  
SUITE 1600  
CHICAGO, IL 60603-3406

EXAMINER
----------

NGUYEN, JOSEPH H

ART UNIT	PAPER NUMBER
----------	--------------

2815

DATE MAILED: 07/03/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 09/801,428	Applicant(s) PERRY ET AL.	
	Examiner Joseph Nguyen	Art Unit 2815	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 14 April 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) 2 and 14 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3-13 and 15-31 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 March 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
     If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
     a) ☐ All    b) ☐ Some \*    c) ☐ None of:  
         1. ☐ Certified copies of the priority documents have been received.  
         2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
         3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
     \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
     a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input checked="" type="checkbox"/> Interview Summary (PTO-413) Paper No(s). <u>15</u> |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                        | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)               |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>10</u> | 6) <input type="checkbox"/> Other:  |

**DETAILED ACTION**

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in-

(1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or

(2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

Claims 1, 3-10, 23-31 are rejected under 35 U.S.C. 102(e) as being anticipated by Tulloch et al.

Regarding claim 1, Tulloch et al discloses on figure 4 a laser device comprising a gain medium 1 in the shape of a polyhedron in which a beam 10 enters the gain medium through one face of the polyhedron; wherein the beam is reflected internally at two or more surfaces in a single pass through the gain medium with each reflection occurring in such a manner that the beam propagates within approximately the plane of incidence; and wherein the beam enters and exits the gain medium at different locations.

Regarding claim 3, Tulloch et al discloses on figure 4 the different locations are on different surfaces of the polyhedron.

Art Unit: 2815

Regarding claim 4, Tulloch et al discloses on figure 4 optical pump radiation enters the gain medium through the one or more surfaces from which the beam will be reflected.

Regarding claim 5, Tulloch et al discloses on figure 4 optical pump radiation enters the gain medium through the one or more surfaces from which the beam will not be reflected.

Regarding claim 6, Tulloch et al discloses on figure 4 the optical pump radiation enters the gain medium through one or more surfaces of the polyhedron, which are approximately parallel to the plane of incidence.

Regarding claim 7, Tulloch et al discloses on figure 4 the optical pump radiation enters the gain medium through one or more surfaces of the polyhedron, which are approximately perpendicular to the plane of incidence.

Regarding claim 8, Tulloch et al discloses on figure 4 heat sinks 3A, 3B coupled to external surfaces of the gain medium.

Regarding claim 9, Tulloch et al discloses on figure 4 the flow of heat from the gain material is generally within a plane transverse to the plane of incidence.

Regarding claim 10, Tulloch et al discloses on figure 4 at least one of the one or more surfaces is oriented at approximately 45 degrees with respect to the path of the beam.

Regarding claim 23, Tulloch et al discloses on figure 4 a laser device comprising a gain medium 1 in the shape of a polyhedron in which a beam enters the gain medium through one face of the polyhedron; wherein the beam is reflected internally at two or

Art Unit: 2815

more surfaces in a single pass through the gain medium with each reflection occurring in such a manner that the beam propagates within approximately the original plane of incidence; and wherein at least one of the one or more surfaces are oriented at about 45 degrees with respect to the path of the beam.

Regarding claim 24, Tulloch et al discloses on figure 4 the beam enters and exits the gain medium at different locations wherein the different locations are on one surface of the polyhedron.

Regarding claim 25, Tulloch et al discloses on figure 4 the beam enters and exits the gain medium at different locations wherein the different locations are on different surfaces of the polyhedron.

Regarding claim 26, Tulloch et al discloses on figure 4 the optical pump radiation enters the gain medium through one or more surfaces of the polyhedron, which are approximately parallel to the plane of incidence.

Regarding claim 27, Tulloch et al discloses on figure 4 the optical pump radiation enters the gain medium through one or more surfaces of the polyhedron, which are approximately perpendicular to the plane of incidence.

Regarding claim 28, Tulloch et al discloses on figure 4 optical pump radiation enters the gain medium through one or more surfaces from which the beam will not be reflected.

Regarding claim 29, Tulloch et al discloses on figure 4 optical pump radiation enters the gain medium through one or more surfaces from which the beam will be reflected.

Art Unit: 2815

Regarding claim 30, Tulloch et al discloses on figure 4 heat sinks coupled to external surfaces of the gain medium.

Regarding claim 31, Tulloch et al discloses on figure 4 the flow of heat from the gain material is generally within a plane transverse to the plane of incidence.

Claims 11-13,15-22 are rejected under 35 U.S.C. 102(b) as being anticipated by Dube

Regarding claim 11, Dube discloses on figure 6 a laser device comprising a gain medium in the shape of a polyhedron in which a beam enters the gain medium through one face of the polyhedron; wherein the beam L is reflected internally at one or more surfaces with each reflection occurring in such a manner that the beam propagates within approximately the original plane of incidence; and wherein the polyhedron contains an internal core section 16 in which there is no gain material.

Regarding claims 12-13, 15-22, Dube discloses on figure 6 all the structures set forth in the claimed invention.

### ***Response to Arguments***

Applicant's arguments with respect to claims 1, 3-13,15-31 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

Art Unit: 2815

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph Nguyen whose telephone number is (703) 308-1269. The examiner can normally be reached on Monday-Friday, 7:30 am- 4:30 pm

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eddie Lee can be reached on (703) 308-1690. The fax phone numbers for the organization where this application or proceeding is assigned is (703) 308-7382 for regular communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

JN  
June 27, 2003

A handwritten signature in black ink, appearing to read 'Eddie Lee', with a large, sweeping initial 'E'.

**EDDIE LEE**  
**SUPERVISORY PATENT EXAMINER**  
**TECHNOLOGY CENTER 2800**